

Method of plasma etching thin films of difficult to dry etch materials**Publication number:** TW478065B**Publication date:** 2002-03-01**Inventor:** ATHAVALA SATISH (IN); GUTSCHE MARTIN (DE)**Applicant:** INFINEON TECHNOLOGIES CORP (US); IBM (US)**Classification:****- international:** C23F4/00; H01L21/02; H01L21/3213; C23F4/00; H01L21/02; (IPC1-7): H01L21/3065**- European:** C23F4/00; H01L21/02B3C; H01L21/3213C4B**Application number:** TW20000117625 20000830**Priority number(s):** US19990396178 19990914**Also published as:**

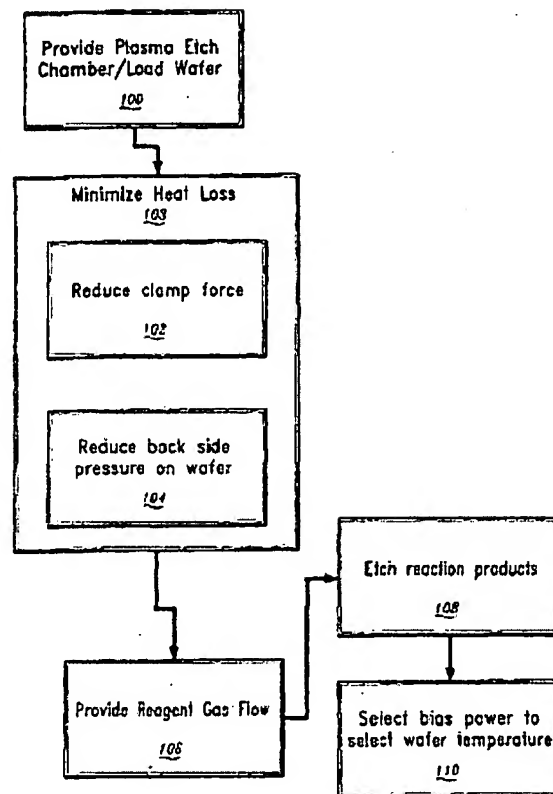
WO0120655 (A1)

US6548414 (B2)

US2001053610 (A1)

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A method for etching material which does not readily form volatile compounds in a plasma includes providing a plasma etch chamber including a wafer electrode at an initial temperature (step 100). The wafer electrode supports a wafer, and the wafer includes a layer of the material which does not readily form volatile compounds in plasma. The wafer is bombarded with charged particles from a plasma generated in the plasma etch chamber to impart thermal energy to the wafer. Heat loss is preferably minimized (step 103). A reactive gas flow is provided to react with etch products of the material (step 106). Bias power is applied to the wafer electrode to impart bombardment energy to the charged particles incident on the wafer from the plasma such that a predetermined temperature is generated on a surface of the wafer (step 110) wherein the wafer electrode is maintained at about the initial temperature.



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